

## **Method and Apparatus for Material Deposition**

### **ABSTRACT OF THE DISCLOSURE**

Broadly speaking, a method and an apparatus are provided for depositing a material  
5 on a semiconductor wafer ("wafer"). More specifically, the method and apparatus provide  
for selective heating of a surface of the wafer exposed to an electroless plating solution.  
The selective heating is provided by applying radiant energy to the wafer surface. The  
selective heating of the wafer surface causes a temperature increase at an interface between  
the wafer surface and the electroless plating solution. The temperature increase at the  
10 interface in turn causes a plating reaction to occur at the wafer surface. Thus, material is  
deposited on the wafer surface through an electroless plating reaction that is initiated and  
controlled by varying the temperature of the wafer surface using an appropriately defined  
radiant energy source.